CONTRACT FILE file

17 February 1961

MEMORANDUM TO: Chief, TISD

FROM: [redacted] STATINTL

SUBJECT: Laboratory Equipment Maintenance

1. On 15 February 1961 the undersigned was directed to escort [redacted] recently assigned to the US Army contingent of PIC, through the DMD Photographic Laboratory. During this visit in the laboratory at approximately 1600 hours it was noticed that the fluid had not been drained from the film gate of the [redacted] 20X Enlarger. STATINTL

2. Since this same condition had been noticed on 2 previous occasions and brought to the attention of [redacted] of the Photo Laboratory it seemed advisable to inform [redacted] STATINTL STATINTL STATINTL of this situation, after [redacted] had departed. This fluid, which was left in the gate, is in contact with an optical flat cemented to a metal frame and it is imperative that the fluid be removed when the enlarger is not in operation to avoid possible seepage of the fluid to the optics of the enlarger. Should a leak develop in this fluid gate it would be necessary to return the instrument to the factory for installation of a new optical flat and complete recalibration, since the top side of the optical flat is the object plane of the optical system. It was noticed also, but not mentioned, that the front surface of the lens had become clouded obviously from tobacco smoke. As this is not an ordinary lens every precaution should be taken to keep the exposed surface clean and unclouded without undue wiping of the surface. The 20X Enlarger, when calibrated, was capable of more than 400 lines per milimeter on axis. Deterioration of optimum conditions and calibration would result in a tremendous loss in resolution of the instrument. For example, the difference between resolving 50 lines per milimeter and 400 lines per milimeter could be caused by a 10 degree F. change in temperature in either direction or if the principle distance from the lens to object plane were changed by as little as 2/10,000 of an inch.

3. Many pieces of equipment in the Photographic Laboratory are not only very expensive but were exceedingly difficult to obtain due to delivery schedules, etc. Maintenance manuals are available for most of these equipments and first echelon maintenance is very clearly described. These procedures are maintained to keep the equipment in good operating condition over an extended life expectancy and to make it possible to produce results consistent with the manufacturer's design objectives. If we continue to deal with materials of increasingly higher resolution capabilities the maintenance of the equipment in the Photographic Laboratory becomes increasingly more critical.

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PIC/TISD:g [redacted]